XXXIV

[redacted]

CLASSIFICATION CHANGED TO [redacted]
By authority of [redacted]
8 APR 1966

DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS
DOD DIRECTIVE 5200.10

[redacted]

OFFICE SYMBOL	[redacted]				
NAME (SIGNATURE)	[redacted]				
DATE					

AFBMD Form 1.1
1 Nov 59

COORDINATION SHEET

Replaces AFBMD Form 1.1, 1 Jun 59

AIR FORCE [illegible], Ogden, Utah

[redacted] [redacted]

[illegible] [illegible] [illegible] VANDENBERG AFB CALIFORNIA

[illegible] [illegible] [illegible] AFB [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] REPORT OF THE LAUNCHING

OF DISCOVERER 34/[illegible] [illegible] [illegible]/.

1. DISCOVERER 34 CONSISTING OF THOR BOOSTER NO. 3[illegible] AND AGENA B ORBITAL STAGE NO. 1117 WAS LAUNCHED FROM [illegible] [illegible] PAD 1 AT [illegible] [illegible] OF 5 NOV 1961. THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE DISCOVERER SATELLITE WITH PAYLOAD IN A NEAR-POLAR ORBIT, WAS ACCOMPLISHED. HOWEVER, AN ABNORMALLY LOW ORBITAL PERIOD [illegible] FROM OVER AND [illegible] [illegible] VELOCITY AT INJECTION. [illegible] FROM THE [illegible] TRACKING [illegible] [illegible] AN INJECTION ALTITUDE OF 151 STATUTE MILES, AN INJECTION [illegible] VELOCITY OF APPROXIMATELY 26,100 FPS, AND AN INJECTION FLIGHT PATH ANGLE OF ABOUT 0 DEG. TRACKING STATIONS AT KODIAK AND HAWAII HAVE CONFIRMED ORBITAL STATUS, HOWEVER, THE PERIOD WAS IN EXCESS OF 97 MINUTES.

2. PRELIMINARY EVALUATION INDICATES THAT LAUNCH TEST OBJECTIVES WERE ACHIEVED AS FOLLOWS: (REF. DETAILED TEST OBJECTIVES, [illegible], SECTION 2).

A. DISCOVERER BOOSTER - OBJECTIVE ACHIEVED.

AT BOOSTER CUTOFF VEHICLE POSITION WAS WITHIN A RADIUS OF 3 NM RADIUS, FLIGHT PATH ANGLE WAS WITHIN PLUS/MINUS 1 DEG, AND VELOCITY WAS WITHIN 200 FPS OF THE NOMINAL VALUE. BOOSTER STEERING AND [illegible] COMMANDS WERE GENERATED AND TRANSMITTED ACCURATELY BY THE GROUND GUIDANCE SYSTEM AND VEHICLE RESPONSE TO THE COMMANDS APPEARS TO HAVE BEEN NORMAL. MECO OCCURRED AT T PLUS 147.7 SEC.

[illegible]

[redacted] [redacted]

6595 AEROSPACE TEST WG VANDENBERG AFB CALIFORNIA

WITH PROPULSIVE DEFLECTION OPERATING ALMOST SIMULTANEOUSLY WITH RECEIPT OF THE SECOND COMMAND COMMAND FOR MECO. VEHICLE ROLLED SOLO OPERATION TAKING 9.0 SEC WITH VECO CONTINUING AT T PLUS 156.7 SEC. SEPARATION WAS INITIATED BY A COMMAND COMMAND AT T PLUS 160.5 SEC. TELEMETRY DATA INDICATE THE BOOSTER COAST APOGEE ALTITUDE WAS 123.63 NM (NOMINAL:123.5NM) AND THE BOOSTER COAST APOGEE VELOCITY WAS 9478 FPS (NOMINAL:9514FPS). THIS DID HAS THE BOOSTER BOOSTER TO BE RECEIVED WITH A REDUCED CEILING DURING AN ATTEMPT TO RECOVER THE LONGITUDINAL OSCILLATION PROBLEM. THE AGENA INSTRUMENTATION INDICATED NO SIGNIFICANT IMPROVEMENT.

3. AGENA ATTITUDE AND RATING - OBJECTIVE ACHIEVED.

NO EVIDENCE OF STRUCTURAL TROUBLES IN THE AGENA AIRFRAME OR ADAPTER HAS BEEN NOTED.

THE AGENA-BOOSTER SEPARATION PROVIDED THE DESIRED ENVIRONMENT FOR CONDUCTING OPERATIONS AT T PLUS 165.1 SEC.

4. AGENA PROPULSIVE SYSTEM - OBJECTIVE ACHIEVED.

AGENA ENGINE IGNITION OCCURRED IN A NORMAL MANNER AT T PLUS 204.4 SEC AND THE ENGINE OPERATED SATISFACTORILY FOR 256.0 SEC. ENGINE SHUTDOWN OCCURRED AT T PLUS 460.8 SEC DUE TO PRE-PROGRAMMED DEPLETION. THE TELEMETRY DATA SHOW THAT THE PROGRAMMED VELOCITY GAIN OF 14,300 FPS HAD BEEN ATTAINED AT 459.2 SEC OR APPROXIMATELY 1.6 SEC PRIOR TO THE ACTUAL SHUTDOWN. THE TELEMETRY DATA ARE INCONCLUSIVE IN INDICATING WHETHER ANOMALOUS

[redacted]

VOID

[redacted]

6995 ASSURANCE THAT NO VARIATIONS ARE DETECTED

OF THE MISSION CRITERIA HAS NOW BEEN MADE WELL APPROXIMATELY 439.7 SEC. EXTRAPOLATION OF TELEMETRY DATA INDICATES THAT THE TRUE CURRENT VELOCITY WAS 14,950 FPS. THE INITIAL PROGRAM IN THE ASCENT GUIDANCE HAS BEEN THAT NECESSARY TO GIVE THE VEHICLE ORBITAL VELOCITY AT THE FIRST IGNITION ATTEMPT.

B. ATLAS SUSTAINER, TWIN ACCEL - OBJECTIVE ACHIEVED.

NO EVIDENCE OF ATLAS SUSTAINER TWIN ACCEL TROUBLE HAS BEEN NOTED.

C. ATLAS GUIDANCE AND VEHICLE CONTROL SYSTEM - OBJECTIVE PARTIALLY ACHIEVED.

THE ATLAS GUIDANCE SYSTEM RESPONDED PROPERLY TO A 6.96 SEC TIME-TO-TIME CORRECTION AND A 2.31 SEC VELOCITY-TO-BE-GAINED CORRECTION COMMANDED BY THE GUIDANCE SYSTEM. VEHICLE ATTITUDE APPEARS TO HAVE BEEN CONTROLLED SATISFACTORILY DURING THE COAST PERIOD AND THE ORBITAL BOOST PHASE, RCS CONTROL GAS EXPENDITURE WAS NORMAL DURING BOTH OF THESE PERIODS. MISSION OBJECTIVE WAS NOT ACCOMPLISHED BY THE INTENDED ORBITAL ALTITUDE OF THE MISSION OBJECTIVE HAD NOT OCCURRED BEFORE THE INTEGRATOR HAD ORDERED THE TERMINATION SEQUENCE, THE B-SIDE SEQUENCE CONTROLLED THE TIME AND SEQUENCE OF ALL PROGRAMMED EVENTS THAT WERE SCHEDULED TO OCCUR PRIOR TO LOSS OF TELEMETERED DATA AT VIS.

D. ATLAS SPACE COMMUNICATIONS SYSTEM - OBJECTIVE ACHIEVED.

OPERATION OF THE ACQUISITION BEACON AND THE RADAR BEACON WAS SATISFACTORY. THE TRACKING THE ACQUISITION BEACON WAS LIFTOFF TO

[redacted]

[redacted] AND CALIFORNIA

T PLUS 000 SEC AND THE NORMAL SEQUENCE FROM LIFTOFF TO T PLUS 479 SEC. AT T PLUS 479 SEC, THE TIME OF TELEMETRY DATA TAKE FOR VTR, ALL TELEMETRY CHANNELS WERE OPERATING. AT THIS TIME THE CRYSTAL TIMER WAS SET AT 1442 SEC, IN THE SEARCH POSITION, IN THE INCREASE MODE, AND CONTAINED 24-HOUR RUNNING STATE. NO ERROR CONDITIONS WERE SENT DURING THE ASCENT PHASE.

6. ATTITUDE CONTROL SUBSYSTEM - OBJECTIVE ACHIEVED.

ATTITUDE AND CRYSTAL STATE CONTROL WAS SATISFACTORILY ACCOMPLISHED DURING THE PRE-LAUNCH CONDITION BY THE AEROSPACE CONTROL SUBSYSTEM. SPACE TASK 16 A POWER AMPLIFIER IN THE BLOCK-HOUSE LAUNCHER WAS BEING RECEIVED TELEMETRY FEEDBACK "BEEPING" DATA, RECOMMENDED. ELECTRICAL POWER WAS ADJUSTED AND NORMAL OPERATION PROCEEDED.

7. TELEMETRY RECEIVING FACILITIES - OBJECTIVE ACHIEVED.

THE ATDA TELEMETRY SIGNAL WAS RECEIVED AND RECORDED BY VTR FROM LIFTOFF TO T PLUS 508 SEC AND USED FLIGHT DATA WERE DERIVED FOR THE PERIOD FROM LIFTOFF TO T PLUS 510 SEC. THE VTR TELEMET SIGNAL PROVIDED GOOD ANALOG AND DIGITAL DATA RECORDS FOR THE PERIOD FROM LIFTOFF TO LOSS OF TRACK AT T PLUS 479 SEC WITH AN INTERMEDIATE LOSS OF 7 SEC STARTING AT T PLUS 305 SEC. STATION COMMUNICATIONS DURING THE LAUNCH OPERATION WERE ADEQUATE.

3. PRE-LAUNCH CONDITION

THE COUNTDOWN STARTED AT 0330 EST ON 5 MAY 61 AND PROCEEDED TO LIFTOFF WITH NO HOLDS. THE FOLLOWING PARA[redacted]

[redacted]

FOR

5 6

[redacted]

[illegible]

DUE TO AN ABNORMAL INDICATION IN THE [illegible] DURING PRE-LAUNCH CHECKS, THE [illegible] WAS [illegible] DURING TASKS 8 AND 9 RESPECTIVELY AND FOUND SATISFACTORY.

PRIOR TO TASK 13 ([illegible] REMOVAL) PAYLOAD CHANNELS APPEARED SLIGHTLY ABNORMAL. A PORTION OF TASK 9 (PAYLOAD CHECKS) WAS [illegible] TO VERIFY PROPER OPERATION OF THE PAYLOAD. THE 10% PROPELLANT LOADING PART OF TASK 14 WAS PERFORMED DURING TASK 12 ([illegible] EVALUATION) IN ORDER TO OBTAIN LINE FILL INFORMATION. FOLLOWING 10% LOADING, THE PROPELLANTS WERE DRAINED LEAVING NORMAL RESIDUALS IN THE LINE. A 100% LOADING WAS THEN ACCOMPLISHED DURING TASK 14 (PROPELLANT TANKING) IN [illegible].

THERE WERE TWO PREVIOUS LAUNCHING SCHEDULES. THE FIRST ATTEMPTED LAUNCH WAS INITIATED AT 0530 PST NOVEMBER 1, 1961. THE LAUNCH WAS ABORTED DURING BOOSTER IGNITION WHEN AN ELECTRICAL MALFUNCTION OCCURRED IN THE BOOSTER ENGINE "J" BOX. NO OTHER PROBLEMS AROSE BUT HOLDS DUE TO [illegible] TOTALING 1 HR 35 MINUTES DURING THIS ABORTED LAUNCH. THE LAUNCH WAS RESCHEDULED FOR NOV 2, 1961, BUT DUE TO [illegible] ENGINE CIRCUITRY PROBLEMS AN ABNORMAL INDICATION IN THE THOR CPA [illegible] NO COUNTDOWN WAS ATTEMPTED.

4. PAD DAMAGE

PAD DAMAGE WAS SLIGHTLY GREATER THAN NORMAL DUE TO A POST LAUNCH FIRE AT THE BASE OF THE MAST. REQUIRING REPLACEMENT ARE ONE AGENA AIR CONDITIONING [illegible] AND THOR AND AGENA ELECTRICAL CABLING AT THE TOP AND BOTTOM OF THE MAST. [illegible]

[illegible]

[redacted]